

Notes from Call On 9/29/14 with MPCA on Nutrient Rivers WQS

Attendees: MPCA -- Katrina Kessler, Mark Tomasek, Steve Heiskary, and Steve Weiss; EPA -- David Pfeifer, Brian Thompson, Linda Holst

TMDL/ASSESSMENT RELATED QUESTIONS

1. To what parameters would MPCA write the TMDL if both P and one or more response variables are exceeded? **MPCA:** Write to TP unless there is some reason to derive a site specific criteria. Believe if TP is achieved, the response variables will be achieved.
2. What data would MPCA consider to be representative and appropriate for use in assessing compliance with the R&S eutrophication standard? For example, would MPCA use grab samples for pH? **MPCA:** A grab pH sample could NOT override TP (absolutely not). Diel pH is another effective indicator of whole stream respiration. Continuous DO and pH are collected on the same instrument, so DO will always be available where pH is available. The primary driver is sestonic chlorophyll *a*. Will have TP and chl-*a* in the vast majority of cases. This is apparent in the parameter list for the MN monitoring strategy. TP and grab pH are never envisioned to be the sole parameters.
3. Does MPCA ever envision having only TP and pH data for a river/stream? If yes (and representative and appropriate data are available) and TP was exceeded and pH was attaining, would MPCA say the waterbody was attaining, impaired, or MPCA needs more info to decide? **MPCA:** Would decline to make a decision on that water. Haven't actually thought through where this water would go. Probably call it insufficient information and get additional data. MPCA really doesn't expect this to occur. MPCA noted that for contract monitoring, the contract stipulates that TP and chl *a* must be collected. All of the monitoring aimed at eutrophication is intended to drive collection of paired data for TP and chl *a*.
4. How many lakes has MN listed as impaired for nutrients/TP? **MPCA:** Monitored and assessed 3700 lakes, and listed 573 waters as impaired for the existing lake and reservoir eutrophication standards.
5. How many TMDLs has MPCA done and EPA approved for lakes impaired for nutrients/TP? (This question is to get at how you have implemented your lakes criteria in terms of listing and doing TMDLs.) **MPCA:** 152 TMDLs approved, and TMDLs drafted for an additional 81 lake basins.
6. What would MPCA do in terms of listing or not listing when one or more response variables is exceeded but TP is not (e.g., would MPCA say the waterbody is impaired and needs a more stringent site-specific P criterion)? Does MPCA's decision change if chlorophyll *a* is really high and TP is attaining? **MPCA:** Would go through stressor ID process. For example, BOD, pH, and DO can potentially respond to other stressors. Chlorophyll is the biggest interest. It isn't possible to get high TP and not have elevated chlorophyll *a* because the TP sample is primarily bound up in the chlorophyll *a*. Map in SONAR book 2 shows relationship. No situation in which TP would not be exceeded by chlorophyll *a* is high and would only be in unusual conditions as an outflow from a reservoir. TSD1, SONAR.
7. In situations where MPCA has TP data and limited response variable data (i.e., data are not available for all response variables), would MPCA be willing to state in their assessment procedures that MPCA won't say a waterbody is attaining where TP is exceeded, unless all of the available data for response variables are attaining AND one of the response variables is

chlorophyll a? **MPCA:** Not sure a simple must have chl a is appropriate. MPCA wants to be able to look at the data that are actually available at a site. Also observed that the “oddities” that HQ is fixated on are precisely that, “oddities.” MPCA’s monitoring strategy is intended and designed to prevent this type of situation from occurring. The existing data set only has less than 1% of the sites where odd data combinations exist and the new strategy will prevent that going forward. Also expressed concern that EPA is attempting to “rewrite” the adopted WQS and this could negate the State’s process to get the WQS adopted and be challenged by outside parties.

PERMITTING QUESTION

1. How many permits have been written with TP limits to protect downstream uses and lakes? (This question is to get at how you have implemented lakes criteria in NPDES permits.) **MPCA:** Issued 10 wastewater NPDES permits with limits < 1 mg/L and issued an additional 218 wastewater permits with restrictive mass limits to protect downstream lake and reservoirs.

STANDARDS QUESTIONS

1. Does MN’s dataset support saying with high confidence that TP alone is enough to protect the health of aquatic communities? (This question is getting at whether based on MN data whether you are confident that exceedance of TP means the aquatic community is not protected.) Or to put this a different way: How would the accuracy of assessment using TP alone compare to the accuracy with TP and response variables? **MPCA:** TP on its own does not impair AL, so a TP sample is not appropriate. It is the cascade of events as TP is incorporated into the algal and microbial communities. TP, by itself isn’t meaningful. MPCA also stated that the monitoring program in MN is monitoring the sites where eutrophication is most likely to be expressed.
2. Does MN’s dataset support saying that a lot more impairment will be captured given data on all response variables vs. data on chlorophyll a only? Does MN data set support conclusion that more sites will be listed with additional response indicators compared to just chl a? **MPCA:** Other response variables have confounding factors. Chl a is a straight-line connect to TP and eutrophication. MPCA doesn’t expect that the other three indicators would yield much in the way of additional listing decisions. Costs of collecting full data sets would result in a significant reduction in the number of sites assessed. MN assessment is aimed at the pour points and propagates listing and implementation impacts upstream.
3. Conceptually, what does MPCA consider to be the relationship between the different response components of the eutrophication standard to the other response indicators and the relationship of each response indicator to the causal indicator (TP)? **MPCA:** MPCA described conceptual relationships of indicators and that excess TP leads to excess algae, stimulation of bacteria and a cascade of events. MPCA has set up a chl-a based system and confirmed R5’s understanding.

MPCA asked for an opportunity to speak directly to HQ if it looks like the desired outcome is in question.